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ABSTRACT

Part I of this report presents observations on the literature on change and is concerned with the value of the literature to the practitioner. It attempts to join knowledge of the change literature with knowledge of the educational setting. Part II analyzes the literature under the following headings: (1) definitions and types of change, (2) change models, (3) strategies and techniques, (4) people involved in change, (5) sources of and barriers to change, and (6) research studies of the change process. The purpose of the analysis is to present the reader with a general overview of the topic of change, and to provide some support for the observations presented in Part I. A related document is EA 003 115. (Author)

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Observations and Analysis of the Literature on Change

by

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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ABSTRACT

In Part I, observations on the literature on change for practicing school administrators are presented under the headings of (1) conceptual confusion; (2) goals and objectives; (3) statement of problems; (4) democracy and planned change; (5) the school district as a target or initiator of planned change; (6) internal and external linkage; (7) change capability; (8) maintenance or improvement; (9) change models; (10) phases of change; (11) roles in change; (12) crisis as a stimulus to change; and (13) lack of training. Part I is concerned with the value of the literature to the practitioner. It attempts to join knowledge of the change literature, which is found in Part II, with knowledge of the educational setting.

In Part II, various viewpoints in the literature are presented under the headings of (1) definitions and types of change; (2) change models; (3) strategies and techniques; (4) people involved in change; (5) sources of and barriers to change; and (6) research studies of the change process. The purpose of the analysis is to present the reader with a general overview of the topic of change, and to provide some support for the observations which are presented in Part I.

PART I
OBSERVATIONS ON THE LITERATURE FOR PRACTICING SCHOOL ADMINISTRATORS

The past decade has witnessed a profusion of writings addressed to change in education and a substantial increase in the number of projects designed to effect educational change. There exist, however, few scientifically developed (i.e., theoretically based, empirically tested and revised) tools for use in the task of administering change. The promise of educational change has not been fulfilled in reality. In this chapter, possible reasons for this state of affairs are explored. The discussion attempts to join knowledge of the change literature with knowledge of the educational setting.

The overarching observation is that the practicing school administrator can find very little practical help in the literature for planning and managing, and dealing with problems of change. The literature, for the most part, portrays change as a novel event interposed between periods of organizational stability. The practicing school administrator, on the other hand, does not have the luxury of viewing change as a novel event. He is daily involved in crisis decision-making, which entails making the best of a set of less-than-satisfactory decisions. He must solve the plethora of immediate, non-postponable problems if he is to survive.

A more detailed discussion of underlying observations follows:

1. *Conceptual confusion.* There is widespread conceptual confusion in the literature on change which has resulted from various writers using the same term to refer to different things and using different terms to refer to the same thing. Diffusion, dissemination, model, change, innovation, strategy, and tactics are a few of the terms which are frequently used in this manner. Moreover, in delineating the various phases in the change process, many writers tend to focus on a segment of the change process without indicating which segment is being explicated and/or imply that all segments are being explicated when, in point of fact, they are not.

Therefore, the practicing administrator who wishes to benefit from the insights of various writers faces the burdensome and time-consuming task of translating these insights into a common language that is meaningful to him. He is also frequently in the position of trying to use what he has read only to find out that what was read is not what the writer meant. When joined with the immense quantity and inconsistent nature of literature on change, these factors effectively preclude widespread utilization of the literature by practitioners.

2. *Goals and objectives.* The importance of defining goals and structuring objectives and of relating change projects to the goals and objectives is agreed upon. However, the feasibility of doing so in actual change projects is open to question. Most school districts do not now have goals and objectives which unequivocally provide direction for change activities, or have stated their goals and objectives in a way that prohibits such direction. Existing goals and objectives are generally unassailable, but not very helpful (Is creating a mirage of consensus helpful?). Moreover, there is frequently a conflict between the avowed goals and objectives of a school district and the current activities of the district. In other words, if the goals and objectives were to be derived solely from the current activities of the district, the result would probably indicate that what the district says it is trying to accomplish is vastly different from what its activities are accomplishing. While such an exercise would produce clear and operational statements of objectives, it would also probably create enough conflict to endanger the continued operation of the district.

To give a specific example of the implications of the issue under discussion, consider the application of "systems analysis" to problems of change, an approach recommended by many writers. To utilize this approach, the boundaries of the system have to be defined. A major part of the definition is the delineation of the goals and objectives of the system. Now, if the goals and objectives of a school district are accepted as is, a distorted and ambiguous picture of the district arises. If the goals and objectives are derived from the current activities of the district, the intended functioning and the actual functioning have still to be reconciled. For these reasons, "systems analysis" may be helpful for promoting problem awareness, but its usefulness for solving problems in the ongoing operations of school districts is limited.

The point being made here is that while the task of defining meaningful goals and structuring operational objectives should be of paramount concern to the practitioner, the relative ease of doing so should not be overemphasized. The political considerations involved in this task are immense.

3. *Statement of problems.* If a school district is considering a change, then there should be a problem, which derives from an unsatisfied need, the change is supposed to solve. The literature says define this problem before you move ahead. The difficulty with such advice is that there is usually little agreement as to what the real problem is, over time or at a certain point in time. Furthermore, because of the increasing interdependency of relationships (more will be said about this later), a school district may be able only to solve the symptom, not the problem. There is also the question of who defines the problem. What people at one level may consider to be a problem, those at the next higher level may regard as a symptom.

Relating to the previous issue, goals and objectives, it can be said that solutions to many problems have as their target political, economic, social and private goals and objectives which are inextricably intertwined with the solutions, but which are rarely, if ever, stated when the problem is defined. Moreover, a priority ranking of all the goals and objectives which a solution is supposed to meet is rarely, if ever, developed, nor is such an approach frequently recommended.

The purport of this discussion is to signify both the importance and difficulties of accurately and adequately defining problems before efforts are directed at problem resolution.

4. *Democracy and planned change.* As a general rule, people resent having their activities consciously planned, arranged or manipulated by others when they have no voice in such planning, arranging or manipulating. On the other hand, the failure to plan, arrange or manipulate effectively counteracts any movement toward attaining a higher level of effectiveness for it is only by such planning, arranging or manipulating, happenstance excluded, that this higher level is attained.

The paradox that obtains here can be resolved only by devising and utilizing structures and mechanisms which elicit freedom of expression and conflict among competing interests and which resolve such conflict before change decisions are made. People must have a voice in change decisions before they are made, and the decisions must be based upon consideration of these competing voices. Planned change can be achieved only when control of designated activities is accomplished, and in a "democratic" society this means having an elaborate schema for consultation and conflict resolution.

5. *The school district as a target or initiator of planned change.* Related to the seeming conflict between democracy and planned change is the issue of whether school districts should be the targets or initiators of planned change. In fact, this issue is the same as the previous one, but here it is viewed from a specific perspective. A glib answer to this question is both: school districts should be both the targets and initiators of planned change.

Such an answer, however, effectively begs the question. The purport of the issue is that school districts can expect an increasing amount of pressure of a more sophisticated variety to be placed upon them to change in specified ways. They will have to, therefore, become more sophisticated at relating to other institutions, agencies, and groups if they are to be initiators of planned change.

6. *Internal and external linkage.* It is clear that the interdependency of all institutions, agencies, and groups within and related to the educational enterprise will increase to an appreciable extent. For the local school district, this means that it must devise mechanisms for becoming more attuned to what is going on outside and inside its boundaries. (Part of the boundary problem has already been mentioned, but consider, for example, if new militant student or community groups are inside or outside that boundary.) What the full complement of these external and internal linkages will look like is not yet known, but efforts must be directed at structuring these relationships.

Thre is some evidence to indicate that organizations which are highly interdependent are also more innovative. This same evidence suggests, however, that high interdependency creates problems for the organization, such as an increase in problems of internal coordination (1).

The local school district can expect to be less insulated, whether voluntarily or not, from other organizations which have related concerns. Whether the attendant problems of such interdependency will outweigh the potentially beneficial results remains to be seen.

7. *Change capability.* Most of the literature is addressed to how school districts can take on discrete changes such as team teaching, programmed instruction, non-gradedness and modular scheduling. While such efforts are to be applauded, they have limited potential for eliciting movement toward and gaining acceptance of change as a routine occurrence. Moreover, they suffer from a false assumption: namely, that school districts are capable of planning, introducing, installing and managing discrete changes in a manner that (a) protects the integrity of the change; (b) is suited to the individual conditions obtaining in the district; (c) resolves conflict over the proposed change and its implementation; (d) results in an improved state of performance; (e) does not prematurely prompt nor unnecessarily delay acceptance of the change; and (f) does not preclude consideration of other changes. The high incidence of non-utilized and subverted changes belies this assumption.

Therefore, efforts to enhance or improve the change capability of school districts as a prerequisite for taking on discrete changes become of signal importance. In addition to, and possibly more important than, urging school districts to adopt team teaching, programmed instruction, non-gradedness, modular scheduling, etc., efforts should be directed at enabling a school district to determine where change is desirable and necessary; to define its problems; to assess and utilize the resources both within and outside its boundaries for solving its problems; to invent, adapt or adopt solutions to its problems; and to plan, introduce, install and manage the solutions in an effective, efficient and further change-inducing manner. More concern has recently been devoted to such efforts (e.g., Miles' concept of organizational health (2:11-34), Gardner's concept of self-renewal (3), and Cooperative Project for Educational Development activities (4;5)), but the actual efforts have not passed an embryonic state.

The main point being made here is that a school district's capability to become aware of the need for and to plan and manage discrete changes is currently very limited. Therefore, the major change that is needed is a change in such capability or capacity.

8. *Maintenance or improvement.* It is generally agreed that the paramount functions of administration are to maintain the organization's existence and to improve the organization.

Now, the status of the educational enterprise is such that the only way to maintain it is to improve it, or at least to give the appearance of improvement. Therefore, within the educational enterprise can be seen an immense amount of change activity and an even greater amount of talk about change. The motivation for much of this activity and talk seems to refer to the maintenance aspect. In other words, schools are attempting to change because that is the only way to remain in existence. This produces change for change's sake. The message here is that change must be based on a desire to improve, not maintain, the school district. Ill-motivated changes are seldom long-lasting or wholesome.

This issue is doubly confounded by the fact that the pivotal function of the school is changing from social maintenance to social improvement. Most of the literature seems to be predicated upon the assumption of the school as a vehicle of social maintenance. Schools are, or should be viewed as, vehicles of social improvement, but most of the change literature does not reflect this viewpoint.

It can also be said that traditional administrative arrangements in education were, and are, almost exclusively geared to performing the maintenance function. It is now time to consider how administration can be structured, or restructured if you will, to perform the improvement function (see previous discussion of change capability). This is not to say that the maintenance function should be neglected, but only that the improvement function should be given preeminence.

9. *Change models.* It is recommended that practitioners who are responsible for change projects select and consciously follow an appropriate change model. However, the practitioner who would follow such advice faces the task of deciding which, if any, of the differential formulations of existing change models is appropriate for his situation. A prerequisite for the successful completion of this task is the recognition that existing models do not all speak to the exact same issue. The practitioner must also decide whether the models are describing what is or what should be. Most of the models have varying degress of abstractness, relate to change problems at different levels and from different perspectives, cover different variables, and have varying degress of completeness. For example, the Clark-Guba model looks at the problem of educational change on a national level from the perspective of a researcher and considers adoption of innovations by practitioners as the final phase in the process. Rogers' diffusion model attempts to portray how an innovation diffuses to a wide potential audience. The Lippitt-Watson-Westley model attempts to emphasize how internal needs and resources can be marshalled to solve a problem.

Given the amount of effort they must put forth in selecting an appropriate change model, it is doubtful that practitioners regard change models as being of much benefit to them. Their problems in following a model are left to the imagination.

10. *Phases of change.* The literature abounds with various formulations of the change process. Each of these formulations has its strengths and weaknesses, depending upon the perspective of the reader. A general weakness that applies to most of them is that they seem to view, or at least report, change as a formal, rational process. While this is fine as a guide to change, the informal, non-rational aspects of the process should not be neglected or underemphasized by practitioners. Such neglect or underemphasis can effectively preclude attainment of the goals and objectives of a change project.

11. *Roles in change.* There exists no standard role structure for change in education. On the one hand, it is averred that teachers and administrators can and should perform as advocates of change. On the other hand, it is stated that teachers and administrators are not and can not be advocates of change. Whether the cause or result of such conflicting viewpoints, the inauthentic, goal-displaced, bureaucratic role behavior which is so rampant in education is a crucial factor in solving the issue. It is evident that a complete restructuring of roles is needed if such behavior is to be avoided in the future.

12. *Crisis as a stimulus to change.* The literature is replete with suggestions and lists of factors that can prompt change. Crisis is sometimes mentioned, but it is hardly ever emphasized. However, events occurring in the day-to-day world of the administrator reveal that crisis is one of the main factors prompting change. In fact, the school environment can aptly be described as a crisis environment. Parents, taxpayers, community groups, governmental agencies and students are emphasizing that they will not permit the school to function as it has functioned in the past. It is instructive to note that the major impetus for crisis decision-making comes not from within the school, but from forces which have traditionally been viewed as external to the school.

The import of this issue is that the crisis environment in education will increase, probably with renewed vigor. How to handle a crisis situation, or better yet how to prevent the constant reoccurrence of crisis, is a question that is shrouded in doubt and mystery.

What has been said under this issue should not be taken as implying that crisis is inherently bad for an organization or that crisis is dysfunctional for a local school district. In fact, it is recognized that some practitioners regard crisis as a tested and necessary means for inducing change. It is posited, however, that crisis affords few long-term solutions.

13. *Lack of training.* Most of the approaches recommended in the literature necessitate the performance of new skills in such areas as comprehensive planning, project management, program development and selection, evaluation, needs assessment, large-scale consultation, community interface, decentralization, knowledge utilization, problem solving, diffusion, change agentry, educational engineering, conflict resolution, etc., from the superintendent to the teacher and pupil. These approaches call for retraining on a massive scale. However, few formal training programs for these skills exist. Currently such training as exists is on an *ad hoc* basis, but if training remains on this basis, the potential for improvement will remain just that, namely potential. It may be premature to construct a curriculum for these skills because few of the skills have been operationally defined, but it is not premature to consider the nature and source of the training.

Optimistically, it could be hoped that universities, in conjunction with practitioners, will establish and provide such programs. It is the author's bias that such a hope is too optimistic and that practitioners can expect little from universities as institutions in meeting new training needs. These training needs will probably have to be met in new and different ways, and this does not mean having a group of distinguished scholars speak at a series of lectures. Consortiums of school districts might be a possible source for these training needs. New approaches will need to be discussed.

Summary. In an attempt to join knowledge of the change literature with knowledge of the educational setting, some of the underlying generalizations of why the promise of educational change has not been fulfilled in reality have been presented under the headings of conceptual confusion; goals and objectives; statement of problems; democracy and planned change; the school district as a target or initiator of planned change; internal and external linkage; change capability; maintenance or improvement; change models; phases of change; roles in change; crisis as a stimulus to change; and lack of training. The overarching observation is that in its present state and form the literature contains little that is readily and dependably usable by the practicing school administrator in the task of administering for change.

PART II
REVIEW OF LITERATURE

The quantity of material in the literature addressed to the topic of change is indeed large, as is evidenced by the number of citations in the following bibliographies:

1. *Bibliography on Organization and Innovation* (6), which contains approximately 650 entries.
2. *Selected and Annotated Bibliography on the Processes of change* (7), which contains approximately 170 entries.
3. *Bibliography of Research on the Diffusion of Innovations* (8), which contains approximately 1,100 entries.
4. *Bibliography on Knowledge Utilization and Dissemination* (9), which contains approximately 4,000 entries.

Each of the above presents a multi-disciplinary focus on change, but none professes to contain a complete listing of all works addressed to the topic. In addition to the literature itself, the number and diversity of individuals, programs and agencies engaged in the study of change demonstrate the widespread interest and treatment given to the topic (10).

To portray the increasing concern with educational change which has developed over the last decade, some of the major conferences addressed to the topic are indicated below:

1. A symposium which focused on the role of technology, institutions and agencies in the dissemination and implementation of change (11).
2. A traveling seminar where the participants visited innovative school districts and discussed the innovations found therein (12).
3. A symposium which focused on identifying techniques and principles for gaining acceptance of research results in an attempt to bring about educational change (13).
4. A seminar on the change process which was concerned with defining the basic forces impinging upon education, analyzing implications of these forces and discussing different aspects of the change process (14).
5. A seminar which emphasized organizational and systemic factors in the change process (15).
6. A seminar which focused on the process of curricular change (16).
7. A seminar which focused on strategies for curricular change (17).
8. A conference which attempted to define the problems of change in education (18).
9. A conference which focused on various aspects of curricular reform (19).
10. A conference which focused on large-scale strategies and structures for educational change (20).
11. A series of conferences which were addressed to the general topic, Designing Education for the Future. Subtopics included: *Prospective Changes in Society by 1980* (21), *Implications for Education of Prospective Changes in Society* (22), *Planning and Effecting Needed Changes in Education* (23), *Cooperative Planning for Education in 1980* (24), *Emerging Designs for Education* (25), and *Planning for Effective Utilization of Technology in Education* (26).

12. A conference which focused on strategies and approaches to planned educational change (27).
13. A series of conferences where superintendents identified various change problems and indicated the role of different institutions in their solution (28).
14. A conference which focused on the role of research in educational change (29).
15. A seminar which focused on the topic of knowledge utilization and its relationship to change (30).
16. A conference which focused on the problems of studying the diffusion of new educational ideas (31).
17. A series of seminars which attempted to promote in-depth discussions of every facet of educational change (32:1-6).

The author has referred to the bibliographies and conferences to emphasize the fact that the topic of change has a great deal of currency, encompasses many fields, and has been treated extensively in the literature from a variety of viewpoints. Furthermore, the study of the topic itself is changing, as is evidenced in the different editions of *The Planning of Change.* The first edition, which appeared in 1961 (33), emphasizes group dynamics and social psychology, while the second edition, appearing in 1969 (34), places primary emphasis on knowledge utilization. Therefore, no attempt will be made in this literature review to present an exhaustive portrayal of the topic of change. Rather, the review will highlight various aspects of the topic under the following headings: (1) Definitions and Types of Change, (2) Change Models, (3) Strategies and Techniques, (4) People Involved in Change, (5) Sources of and Barriers to Change, and (6) Research Studies of the Change Process.

I. DEFINITIONS AND TYPES OF CHANGE

Change implies that "there is some perceptible difference in a situation, circumstance, or a person between some original time t_0 and some later time t_1" (35:1). It can be directed at three levels: (1) individual, (2) group, and (3) social system (36:85-88). There are also various forms of change. Chin identifies the following five:

1. Substitution of one element for another.
2. Alteration of basic elements.
3. Perturbations and variations where temporary oscillations occur in a system.
4. Restructuring involving basic structural modification.
5. Value orientation requiring attitudinal or cultural changes. (37:10-11)

Social change may be defined as "the alteration in the systemic attributes of society and its subsystems through the development of new systems and the alteration of old ones" (38:55). It can also be understood as "alterations in a social group's essential attitudes and beliefs whereby new patterns, or 'systems,' emerge from present ones or essentially new ones are developed" (39:6). Social change is viewed by one author as the final master process in all social systems and the goal of all innovative programs (40:44). Social change theory may be regarded as an "organization of the facts involved in the collective utilization of novelty in terms of collective facilitation of some desired or recognized ends and in terms of the measured (or measurable) dimensions or parameters of action" (41:43).

There are various ways of viewing innovation. Barnett defines innovation as "any thought, behavior, or thing that is new because it is qualitatively different from existing forms" (42:7). He feels that the essence of change "lies in the restructuring of the parts so that a new pattern results, a pattern the distinctness of which cannot be characterized merely in terms of an increase or decrease in the number of its component elements" (42:9).

Another author defines innovation as an idea perceived as new by the individual considering adoption of it (43:13). Bhola defines it as "a concept, an attitude, a tool or two or more of these together introduced to an individual, group, institution or culture that had not functionally incorporated it before" (44:8). Beal and Bohlen define it as "a change which involves not only a change in materials but also a complex of changes with regard to their use" (45:83). Other authors draw a distinction between conception and innovation on the basis that conception occurs when a clear concept of a new device, idea or effect is apparent while innovation occurs when the device, idea or effect is operationalized (46:161;47:10).

It is argued that the above concepts of innovation produce "a kind of one-shot, event-oriented 'thingyness' that focuses on the problems of getting a discrete change installed, accepted, and used," and regard change as "an unusual, novel, periodic event interposed between periods of organizational stability" (48:67).

Some authors, however, view innovation as a process. The following is a list of various process definitions of the term:

1. *the entire process of generating a new form of educational practice (along with the concepts underlying it and the materials needed to execute it), trying it in small-scale laboratory settings to get information for the purpose of redesigning it, testing it in a variety of field settings (to discover what it will do under normal conditions), and disseminating it to prospective adopters (to inform and aid them in adopting it). Adoption, which must accompany dissemination (dissemination is sending; adoption is receiving), is also included in the definition. (49:61-62)*

2. "a process that begins with an idea on the part of a change agent and ends in its adoption or rejection by the potential recipients" (50:40).

3. "tryout of a method of producing change in an intellectual climate" (51:107).

4. "creative selection, organization, and utilization of human material resources in new and unique ways which will result in the attainment of a higher level of achievement for the defined goals and objectives" (52:32).

5. "the successful introduction to an applied situation of means or ends that are new to that situation" (53:3).

Gallaher, however, views innovation as only one of three interrelated processes of culture change:

> *(1) innovation, the process whereby a new element of culture or combination of events is made available to a group; (2) dissemination, the process whereby an innovation comes to be shared; and (3) integration, the process whereby the innovation becomes mutually adjusted to other elements in the culture (54:21).*

From these various definitions, it seems that there are at least two components to an innovation: (1) the idea or item which is new to a particular individual or group, and (2) the change which results from the adoption of the idea or object (55:16).

Gallaher depicts two general types of change: (1) changes in the culture of one society in contact with another, and (2) changes in a society which are internally derived, as through invention and discovery (54:20). He defines a form of the latter, directed change, as a "structured situation in which an advocate interferes actively and purposefully with the culture of a potential adopter" (54:20).

Bennis identifies eight types of change by focusing on the relationship between a change agent and client system:

1. *Planned Change* - entails mutual goal setting, an equal power ratio, and deliberateness on the part of both sides.
2. *Indoctrination* - involves mutual goal setting and is deliberate, but it also involves an imbalanced power ratio.
3. *Coercive Change* - is characterized by nonmutual goal setting, an imbalanced power ratio, and one-sided deliberateness.
4. *Technocratic Change* - relies upon the client's definition of his problem and upon the agent's collection and interpretation of data as the solution.
5. *Interactional Change* - is characterized by mutual goal setting, a fairly equal power ratio, but no deliberateness on either side of the relationship.
6. *Socialization Change* - has a direct kinship with hierarchical controls.
7. *Emulative Change* - is characterized by identification with and emulation of "power figures" by subordinates.
8. *Natural Change* - refers to that class of changes brought about with no apparent deliberateness and no goal setting on the part of those involved. (56:83-84)

Guba describes three types of change:

1. *Evolutionary* - without conscious direction or reference to some kind of design; not random, but not planned or intended.
2. *Homeostatic or Reactive* - under conscious direction and sometimes with very immediate effects; in response to some specific triggering; mainly automatic and instinctive rather than thoughtfully guided.
3. *Neomobilistic or Planned* - results from conscious direction and may be triggered by some specific factor, but moves the system in a new direction; goes on the assumption that mere reaction is not enough and that the system may be so out of balance that an entirely new organization, structure, or mechanism is required; is by its very nature always preplanned and risky. (35:1-3)

Another author differentiates between natural or evolutionary changes and changes deliberately designed and pureposefully directed (57:16).

Worthen clarifies what is meant by homeostatic change by stating that it

> *refers to any reactive response intended to restore a state of balance to a person or system for which change pressures have created a state of imbalance. The emphasis is on adjustment to or adaption to change pressures initiated by someone else, rather than identification of needed changes and formulation of a plan of action. (58:2)*

He describes four ways in which school systems react homeostatically to change pressures: (1) resistance (I can't); (2) rationalization (I shouldn't and I won't); (3) random adoption of innovations; and (4) innovation by fiat (58:2).

Chin defines planned change as a deliberate and collaborative process involving a change agent and client system that are brought together to solve a problem or to plan and attain an improved state of functioning in the client system by utilizing and applying valid knowledge (59:332-333). Jung and Lippitt define it as "the inclusion of certain basic problem-solving phases in adapting to an action concern" (60:4). Planned change has been viewed as reducing the number of possible directions for change by emphasizing a few (61:54). It is currently being emphasized over other types of change in education because the alternative to it is to be buffeted about by the pressures and demands of a society that clamors for educational services of many kinds (62:1), because it considers the mechanisms of change and the techniques for guiding the process toward desired end results (63:193), and because it is the only viable alternative for producing the dramatic and startling changes that are needed in education today (35:10;58:4;64:7-10).

Culbertson draws an interesting distinction between planning for change and planned change. He argues that planning for change is not necessarily planned change because control of designated activities may not be accomplished. He, therefore, concludes that an essential part of planned change involves the use and management of conflict (65:2). Miles argues that successful efforts at planned change must take as a primary target the improvement of organization health, which he defines as "the school system's ability not only to function effectively, but to develop and grow into a more fully-functioning system" (2:11-12).

The fact that there is currently a great deal of interest in planned educational change, as evidenced by the number of professional publications and articles addressed to the topic, does not mean that there is agreement as to whether schools should attempt or be the target of planned change efforts. First of all, there is the philosophical and ethical delemma of whether in a democratic social order it is appropriate or desirable for educators to promote planned change (66:3). Such a dilemma denotes a concern with both the ends sought and the means used (67:7-8). Allied with this concern is the essentialist-existentialist confrontation between those who want new means to traditional ends and those who want new means to new ends (68:3).

Secondly, any discussion of planned educational change must take into account the functions schools perform, for as Merton has noted "to seek social change without due recognition of the manifest and latent functions performed by the social organization undergoing change, is to indulge in social ritual rather than social engineering" (69:81).

Katz and Kahn depict schools as performing maintenance functions for society, i.e., perpetuating and preserving traditional societal values (70:112). If this is the case, then the schools will have a difficult time serving as a target or agent of change. Accepting this line of reasoning, Hills depicts the function of the educational enterprise as maintaining the values of society, and concludes, "The structure of that enterprise is, in turn, related to the function performed for society, and there is, it seems, no changing the one without changing the other" (71:40). In the same vein, another author states, "Educational institutions tend to mirror the political environment in which they find themselves and therefore do not, because of their very nature, contribute to political change" (72:12). Furthermore, institutional constraints within the educational enterprise itself, such as the bureaucratic nature of educational organizations (73:12), which preclude consideration of designs that would encourage innovative behavior are bound up with such conceptions of education and its relationship to society (74:42). A research study of the role of education in the Uzbek society of Central Asia, however, denies this line of reasoning, and concludes, "The school performs specific and vital roles of change agent that are unique to it as a social institution" (39:384). One author flatly states that schools should serve as a vehicle for effecting changes in society (75:H-3). Miller tries to reconcile these divergent viewpoints by stating, "Education serves both as a leader and follower of society, operating somewhere between the challenge of George Counts' *Dare the School Build a New Social Order?* (1932), and Henry Steele

Commager's 'schools reflect society' thesis (1950)" (76:2). Another author lends credence to Miller's view by explaining that periods of rapid social change also appear to have periods of educational change. (77)

Some authors feel that the traditional role of the school as a stabilizer in society and preserver of heritage and values is changing, but that the administrative structure remains geared to maintenance activities, resisting change and avoiding conflict (78:93; 79:399). The problem may appear to be a financial one, but even when money is available for change, schools are likely, it is argued, "to do more of the same" (80:4). A study of new programs for disadvantaged children which found that most programs followed traditional educational patterns and practices (81:1-3) corroborates this view.

Thirdly, there is the matter of community support for planned change. It has been demonstrated that there is a close relationship between the community in which the schools exist and the adaptability of the schools (82:150), and that innovation can only be achieved as a result of strong community participation (53:201). However, one study found that while people had very clear wants with respect to change, they had very unclear wants in regard to objectives (83:D-8). In other words, people could criticize the present educational system, but could not indicate what the future system should be like.

Fourthly, there is disagreement about the meaning and efficacy of planned change. Muessig interprets planned change in three ways, while placing a value judgment on each interpretation (84:544-546). Clark argues that educators don't understand what planned change means and therefore view the "fit and start" pattern as the natural order of things in education (85:34). On the other hand, there are those who argue that evolutionary and homeostatic changes are adequate to produce the educational improvements that are needed (35:4-7). Others argue against planned change on the grounds that it will result in the creation of innovations which the schools will utilize by inventing needs (27:6). Herzog criticizes planned change on three grounds. He feels that most approaches to the concept (1) are naively "profession-o-centric," (2) view schools as objects to be manipulated, and (3) fail to recognize that most people are attached to whatever they are currently doing because they believe in the value of it, not because they are resistant to change (86:6-8).

II. CHANGE MODELS

The following statement by McClelland provides an insightful overview of existing change models:

> *It is premature to do more than wish for a general model, let alone a general theory of change and changing. Accordingly, researchers have developed a variety of subsystem models, each of which deals with some aspect of the change process or with some specific setting. Quite understandably, they vary widely in comprehensiveness, complexity, and elegance. (87:15)*

To lend credence to this statement and to indicate the diversity of change models, those models which have currency in the literature will be summarized.

Bennis identifies three general classes of change models:

1. *Equilibrium Models.* Such models have as their target defensive social structures, the mechanisms they utilize involve tension release through anxiety reduction, and their normative goal is conflict-free social structures.

2. *Organic Models.* These models have as their target problem-solving activities, the mechanisms they utilize involve power redistribution and conflict resolution, and their normative goal is team management.
3. *Developmental Models.* These models have as their target interpersonal competence, the mechanisms they utilize involve transformation of values, and their normative goal is authentic relationships. (88:144)

Chin depicts four general classes of change models:

1. *Systems and Component Model. A system model allows for change to come from components inside the system through invention and innovation. A system mode of conceptualizing assumes a relatively leak-tight boundary for the elements under consideration, a close degree of interrelationship and interdependency of these elements, an arrangement whereby the elements are in some sort of balance or equilibrium.*

2. *Organic Systems Model. In the conceptual model of organic systems, it is assumed that the system has more channels of commerce with its immediate environs. The phenomena represent an open system. Boundaries are not so tight, but interdependency is still an important property of the system's components. Equilibrium is still the keystone, but this equilibrium may be a shifting point, perhaps never achieved even in the ideal state. Stresses and strains arise from the inputs from outside the system. Adaptation to this environment requires that the system, in order to survive, engage in constant actions on, and responses to, the environment, and develop a feedback mechanism to steer and guide its behavior.*

3. *Developmental Models. Developmental models are not bound by time as are the previous system models. In developmental models there are assumptions of direction of movement toward something or somehwere. At any one point in time, there are stages or phases which are to be replaced by other stages and phases. There are potentialities built into the system, and there are forces that move the system from one stage to another and further on to its goal, unless impeded by some obstacle.*

4. *Intersystem Models. Another variation of the system models is the intersystem conceptual model. Intersystems models use properties of two organic systems in direct and purposive contact with each other. One needs to specify the nature of the relationship, such as the connections, attractions and rejections that create a relationship between the two systems. (59:336-38)*

McClelland describes two models under Chin's fourth category, intersystem models:

1. An *interpersonal model* which deals with antecedents, process and results.
2. An *inter-organizational model* which focuses on the concept of research through development to use. (87:16-19)

Beal and Bohlen present a 34-step model of social change which focuses on the persons involved, the social systems involved, and the stages or flow of social action (38:55-72). That model is very close to the elements Gephart emphasizes in the study of the educational change process: (1) actor variables; (2) action variables; and (3) the interaction between actor, action and

actor-action variables (89:34-38). Meier's model for bringing about large-scale change emphasizes the interrelationship of the following elements: "(1) an image of a more desirable future, (2) at least one course of action that enables the society to achieve it, and (3) hierarchical ordering and structure" (90:68-69).

Gallaher presents two change models viewed in terms of the role of the change advocate, the pragmatic model and the utopic model:

1. *The model that I call the pragmatic advocate prescribes a role concerned mainly with creating a climate conducive to acceptance; the view of the culture change cycle is global, acceptance is to be achieved, but the processes of acceptance are accorded signal importance. This model rests on the premise that success or failure in directed change is referable mainly to the advocate's understanding of the content and internal organization of the pattern where change is sought.*

2. *The Utopic model defines the advocate's role mainly as one of manipulation to gain the acceptance of an innovation; the view of the culture change cycle is myopic, it focuses almost exclusively on the act of acceptance. There is a basic premise that one can achieve results best by doing things to, or planning for, people rather than with them. (91:41)*

Similarly, Niehoff portrays a model which focuses on the techniques used by the change agent in his efforts to convince a local group to accept a new idea and on the behavior of the recipients toward the proposed innovation (50:10). He divides these techniques into two general categories, the replacement method and the adaptation method:

> *The replacement method is used when an outside "expert" attempts to replace inefficient practices with modern efficient ones in a total manner. The adaptation method is when the innovator attempts to utilize old practices and graft new practices onto them, without attempting complete replacement. (50:21)*

Westley-Gibson explains three models for effecting change in the classroom:

1. *Displacement* which forces teachers and students to use a replacement for an old method or material.
2. *Authority* which emphasizes the use of published research findings.
3. *Co-action* which emphasizes a two-way process in which teachers are involved in using their classes as the basis for hypothesis making and testing. (80:18)

Mann and Neff postulate a model which focuses on resistance to change. According to this model, the amount of resistance is co-determined by the degree of perceived control of the environment and of the change, and by the degree of trust in the change initiators (92:69). Bhola explains a model of change which views the diffusion of an innovation as a function of the configurational relationship between the initiator and target; the extent and nature of linkage between and within configurations; the environment in which the configurations are located; and the resources of both the initiator and target configurations (44:8).

The change process has received extensive treatment in different models of change and has been conceptualized in many ways. In what follows, the investigator will attempt to portray the diverse and extensive treatment of the process.

One of the first attempts to depict the process of change was undertaken by Lewin. He postulates three steps in the process: "unfreezing, moving, and freezing of a level" (93:237). An equally famous conceptualization of the change process, viewed in terms of adoption, is provided by Rogers: "(1) awareness, (2) interest, (3) evaluation, (4) trial, and (5) adoption" (43:81). One author, however, denies that all five stages are necessary to postulate a change process and argues that awareness and adoption are necessary and sufficient (94:103). Eichholz utilized Rogers' five stages in developing a model of change which looks at rejection, rather than acceptance of innovation. He identifies five different forms of rejection: (1) ignorance, (2) suspended judgment, (3) situational, (4) personal, and (5) experimental (95:188). Loomis feels that change is a process which occurs in three stages: (1) initiation, (2) legitimization, and (3) congruence (96:384). Hobbs presents a similar formulation which includes the following stages: (1) development of innovations, (2) diffusion of innovations, (3) legitimation or advocacy, (4) adoption, and (5) adjustment or adaptation (97:22).

From an organizational viewpoint, Gross, Giacquinta, and Berstein depict the stages of time periods in the planned change process as follows:

1. *Antecedent* - "focuses attention on conditions prevailing in an organization prior to the actual initiation of change."
2. *Initiation* - "refers to that period of time in which a particular innovation is selected and introduced into an organization."
3. *Implementation* - "focuses on efforts to make the changes in the behavior of organizational members specified by the innovation."
4. *Incorporation* - "is the period when a change that is implemented becomes an enduring part of the operation of the organization."
5. *Effects* - "refers to the period during which the effects of the implementation of the innovation for organizational functioning are occurring." (98:17)

Some conceptualizations of the change process focus on the relationship between a change agent and client system. One of these is the Lippitt-Watson-Westley model, which postulates the following stages:

1. *The development of a need for change.*
2. *The establishment of a change relationship.*
3. *The clarification or diagnosis of the client system's problem.*
4. *The examination of alternative routes and goals; establishing goals and intentions of action.*
5. *The transformation of intentions into actual change efforts.*
6. *The generalization and stabilization of change.*
7. *Achieving a terminal relationship. (99:131-143)*

Similarly, the National Training Laboratories postulates a model of planned change which has the following eight phases:

1. *Diagnosis of the problem of the client system.*
2. *Assessment of the motivation and capacity of the client system to change itself.*

3. *Assessment of the motivations and resources of the change agent.*

4. *Establishing and maintaining a working relationship with the client system.*

5. *Choosing the appropriate role.*

6. *Selecting appropriate change objectives and targets.*

7. *Provide support and encouragement for changed behavior.*

8. *Termination (or new continuity) of helping relationship. (100:84)*

Another process model of planned change which focuses on the relationship between a change agent and client system is put forth by Buchanan:

1. *Clarify or develop the client's motivation to change.*

2. *Assess the change agent's potential helpfulness.*

3. *Establish effective relations between the change agent and the client system.*

4. *Clarify or diagnose the client system's problems.*

5. *Establish instrumental objectives for change.*

6. *Formulate plans for change.*

7. *Carry out plans for change.*

8. *Generalize and stabilize changes.*

9. *Institutionalize planned development or self-renewal. (101:58-59)*

Goodson and Hammes, reporting on Cooperative Project for Educational Development (COPED) activities in Wisconsin, depict two major processes in change: (1) planning for and managing specific changes which systems might desire or need, and (2) facilitating and perpetuating an innovative climate in the school system (102:4-10).

Some authors focus on the process of instituting and installing a new program in an educational setting. In presenting an adaptation model of change, Abbot describes three phrases; (1) awareness, (2) search, and (3) implementation (103:5-14). Another proposed formulation includes the following stages: "criticism of existing program; presentation of proposed changes and their clarification; review and reformulation of proposals and comparison of alternative proposals; action decisions; and implementation of action decisions" (104:176). Brickell depicts three major steps in this process: (1) informing the board and the staff that a new program exists; (2) convincing the school administrators and the board that the school should adopt it; and (3) teaching the staff how to conduct it (105:208). Caldwell, however, feels that there are four major steps in the process: "(1) identification and priority ranking of needs, (2) development of broad strategies and specific plans for meeting selected needs, (3) implementation of the selected approaches, and (4) assessment of outcomes" (106:5).

An expanded version of Caldwell's formulation is as follows:

1. *Set the objectives or definition of needs and get acceptance of them;*
2. *Explore a set of alternatives or a variety of alternatives that might meet or satisfy these needs;*
3. *Select an appropriate alternative suited to the specific local situation and limitations;*
4. *Organize the introduction of change – set up controls, obtain materials required, plan timing of the introduction, note staff behavior changes required, and determine standards against which to measure achievement of objectives;*
5. *Introduce the change as planned;*
6. *Measure the results against your predetermined standards and take action as necessary, including canceling the change if appropriate. (52:41-42)*

Rubin focuses on the pre-installation process of innovation and depicts the following steps in that process:

1. *Specifying the expected benefits of the innovation.*
2. *Judging the appropriateness of the innovation to the particular situation.*
3. *Verifying the presence of conditions essential to the effective use of the innovation.*
4. *Determining the necessary retraining of the professional staff.*
5. *Determining the required materials.*
6. *Anticipating the effects of the innovation on other aspects of the instructional program.*
7. *Specifying necessary changes in the school organization.*
8. *Establishing a systematic procedure for introducing the innovation. (107:10-11)*

Pickering depicts four stages that an innovator must go through if he wants to see his idea implemented: (1) philosophical, (2) strategical, (3) political, and (4) practical (108:39). Miller presents a comprehensive model for managing change from conception to culmination under the following headings; (1) proposal development, (2) first-year appraisal, (3) second-year appraisal, (4) third-year appraisal, and (5) final evaluation (109:4-90).

Booz, Allen, and Hamilton, a major management consulting firm, views the change process as the basic management process. It depicts the change process for business enterprises in terms of the following phases: (1) exploration, (2) screening, (3) business analysis, (4) development, (5) testing, and (6) commercialization (110:8-9).

There are a number of theory-into-practice models of planned change. Most of these models seem to be predicated on the assumption that there is an orderly process from research to development to use, but there is some research to indicate that the existence of such a process is largely a myth (111:10). Therefore, the models which follow should not be interpreted as necessarily portraying what is, but may indicate what their authors feel should be.

Mackie and Christensen present a model of learning research and application which attempts to interrelate the following processes: (1) Theory Construction (General), (2) Basic Research (Specific), (3) Collation and Interpretation (Specific-General), (4) Translation (General-Specific), (5) Applied Research, (6) Development including techniques and hardware, and (7) Application and Practice (112:3).

Brickell's theory-into-practice model for educational change tries to interrelate the following processes: (1) Basic Research, (2) Program Design, (3) Evaluation through Field Studies, and (4) Dissemination through Demonstration and Re-education (105:199-200). Brickell's initial portrayal of this model, which explained how New York State could organize for educational change, did not include basic research as the first phase because he felt that basic research should be supported on a national, not state, level and that most innovations do not flow methodically from basic research findings but are undertaken quite independently (113:76).

The Clark-Guba theory-into-practice model focuses on the processes related to and necessary for change in education. It tries to interrelate the following: (1) Research; (2) Development, which includes both (a) Invention and (b) Design; (3) Diffusion, which includes both (a) Dissemination and (b) Demonstration; and (4) Adoption, which includes both (a) Trial, (b) Installation and (c) Institutionalization (114:117-122). Clark and Guba have criticized university programs on the basis of the criteria suggested by this model (115), and Guba has criticized the Illinois plan for gifted children on the same basis (116). Guba tries to operationalize these processes in a change model which has the following elements: (1) A Utilization Arm, and (2) An Information Arm, (3) A Research Arm, (4) A Development Arm, and (5) A Diffusion Arm (35:19-29).

Gideonse presents a revised version of the Clark-Guba model and labels it "an output-oriented model of research and development." In the model, he tries to show the interrelationship of the following activities: (1) Research, (2) Development, and (3) Local School Operations (117:iv-vii).

Another model of planned change which is in the theory-into-practice mold was developed by Coughenour, a sociologist. There are four main elements in his model: (1) Research, (2) An Innovative System, (3) A System of Communication, and (4) Linkage With Practitioners (118:2-3).

Havelock has developed two models of change, an agricultural model and a medical model. The agricultural model

> *includes the translation of the findings of scientists to departments of applied research within colleges of agriculture, to those associated with experimental farms and to the extension specialist who has frequent contacts with the county agent who in turn is in touch with the farmer. (118:12)*

Havelock's medical model is very similar to the agricultural one, except that it includes pharmaceutical houses as an additional avenue through which doctors obtain much of their information (118:12).

Miles describes a model of educational change which focuses on the following stages: (1) Design, (2) Awareness-Interest, (3)Evaluation, and (4) Initial-Trial and Post-Trial (104:177-179).

The final type of change model to be mentioned in this review is termed "knowledge utilization model for educational change." The area of knowledge utilization is receiving increased attention from those interested in educational change and as such serves as a fitting conclusion to this section. The model attempts to focus on and link scientific knowledge with knowledge of the educational setting throughout the following phases of the change process:

1. *Identification of a Concern;*
2. *Diagnosis of the Situation;*
3. *Formulating Action Alternatives;*
4. *Feasibility Testing of Selected Alternatives Including Training and Evaluation;*
5. *Adoption and Diffusion of Good Alternatives. (60:6)*

Havelock and Benne view knowledge utilization as a system with a flow structure and an administrative structure, and as a process with motivational aspects, interpersonal and group membership issues, and technical issues (119:5-23). Lippitt describes six models for the use of scientific resources and knowledge:

A. Models which Import Change Resources from Outside the System:

1. Derivation of action designs from relevant research findings;
2. Adoption of experimentally tested models of practice;
3. Diffusion between practitioners;

B. Procedures for Development of the Needed Knowledge Resources Within the System:

4. Diagnostic team with feedback;
5. Internal action-research process;
6. Training of consumers to be open to the use of science. (120:663-668)

III. STRATEGIES AND TECHNIQUES

The difference between strategies and tactics is amply debated in the literature with the result that what some writers consider to be strategies other writers regard as tactics, and vice versa (121:2-3). Beeby notes this confusion when he states that the difference between these two "is one of degree, of distance from the front line, rather than the blunt difference between making a decision and carrying it out under orders," and that "what specialists at one level consider to be tactics those at the next lower level may regard as strategy" (122:34).

Strategies. At any rate, evolving a strategy to bring about change necessitates consideration of at least the following elements:

1. *Assumptions concerning the nature of the practitioner who will be exposed to the strategy.*

2. *Assumptions concerning the end state in which one wishes to leave the practitioner.*

3. *Assumptions about the nature of the agency or mechanism carrying out the diffusion activity.*

4. *Assumptions concerning the nature of the invention. (123:27-29)*

The above elements are similar to, but must be supplemented by, the major components that influence the process whereby an individual or group becomes aware of, evaluates and finally accepts or rejects an innovation: (1) the innovation itself; (2) the process itself; (3) the characteristics of the individuals or groups which make up the adopter system; and (4) the nature of the adopter system itself (55:15). Evolving a strategy also involves consideration of three fundamental functions in the change process: (1) knowledge, (2) attitude change, and (3) behavior change (124:80).

The National Training Laboratories describes six principles of strategy for effecting organizational change:

1. *To change a subsystem or any part of a subsystem, relevant aspects of the environment must also be changed.*

2. *To change behavior on any level of a hierarchical organization, it is necessary to achieve complementary and reinforcing changes in organization levels above and below that level.*

3. *The point to begin change is at those points in the system where some stress and strain exist.*

4. *If thoroughgoing changes in a hierarchical structure are desirable or necessary, change should ordinarily start with the policy-making body.*

5. *Both the formal and informal organization of an institution must be considered in planning any process of change.*

6. *The effectiveness of planned change is often directly related to the degree to which members at all levels of an institutional hierarchy take part in the fact-finding and the diagnosing of needed changes and in the formulating and reality-testing of goals and programs of change. (100:60-63)*

There are many ways of classifying change strategies. One typology includes the following strategies: (1) power and solution oriented; (2) relationship and attitude change oriented; and (3) problem-solving and process oriented (125:43). Sieber classifies strategies under the headings of (1) rational man, (2) cooperation, and (3) powerless participant, and argues for an overall strategy that would encompass the resources of all three viewpoints (126:23-27). Chin classifies change strategies under three headings: (1) empirical-rational approaches based on reason and utilitarianism; (2) normative-reeducative approaches based on attitude change; and (3) power approaches based on compliance (125:44-51). One author feels that *Change in School Systems* (4) and *Concepts for Social Change* (5) represent the best exposition of Chin's second category, normative-reeducative approaches, he has seen (127:90).

Guba has developed a typology of strategies on the basis of assumptions made about the adopter of change:

1. *A value strategy. The adopter is viewed as a professionally oriented entity that can be obligated to adopt through an appeal to his values.*

2. *A rational strategy. The adopter is viewed as a rational entity who can be convined, on the basis of hard data and logical argument, of the utility (i.e., the feasibility, effectiveness, and efficiency) of the innovation.*

3. *A didactic strategy. The adopter is viewed as a willing but untrained entity (as having appropriate values, motivations, and the necessary economic resources but as not knowing how to perform).*

4. *A psychological strategy. The adopter is viewed as a psychological entity whose needs for acceptance, involvement and inclusion can be employed to persuade him to adopt.*

5. *An economic strategy. The adopter is viewed as an economic entity who can be compensated for agreeing to adopt or deprived of resources for refusing to adopt.*

6. *A political strategy. The adopter is viewed as a political entity who can be influenced to adopt.*

7. *An authority strategy. The adopter is viewed as an entity in a bureaucratic system who can be compelled to adopt by virtue of his relationship to an authority hierarchy. (121:4-5)*

Miles developed a typology of change strategies, which is as follows:

1. *Strategies initiated by the target system, using existing structures.*

2. *Strategies initiated by the target system, using new structures.*

3. *Strategies initiated by systems in the environment, using existing structures.*

4. *Strategies initiated by systems in the environment, using new structures. (128:20-29)*

Brickell argues that there are only two major strategies available to a local school district which wishes to effect change in its instructional practices: "invent a new instructional process or adopt one invented elsewhere" (129:140). He also argues that a third alternative, adaption, is not really practicable because of the poor results which normally ensue from such a choice (129:140). Carpenter argues that to bring about meaningful educational change, many kinds and different levels of strategies need to be employed in serving all of the different functions involved in the change process (130:16). Another author states that demonstration is currently the chief strategy for acceptance of change (41:46). Miles describes the strategies which are currently being employed as "polemical, manipulative, technological, prestige-based, experimental, moralistic" (128:2), and lists the characteristics of effective and ineffective stragegies:

> *Certain characteristics of strategies have been asserted to make for effectiveness: comprehensive attention to all stages of the diffusion process; creation of new structures, especially by systems outside the target system; congruence with prevalent ideology in the target system, such as beliefs about the importance of "local control"; reduction of pressures on relevant decision-makers; and use of coalitions or linkage between existing structures, or between old and new structures.*
>
> *Certain types of strategy seem less effective: those which attempt to use only existing structures, and are thus hamstrung by the status quo; those self-initiated by the target system, since (in addition to suffering from status quo problems) they tend to avoid attention to cross-system problems, such as interorganizational power struggles which are likely to affect the progress of the innovation; and those which rely on arousing excessive degress of conflict, though the intriguing idea of "controlled conflict" has been suggested as being promising. (131:648-649)*

Culbertson has proposed four specific strategies for facilitating planned educational change. Each strategy is directed at a constraint which hinders efforts to achieve planned change. The strategies and the constraints they are addressed to are as follows:

1. The creation of a national education academy to attract promising and imaginative persons into education and prepare them in such a way that they would make major

contributions to planned change. This strategy is addressed to the lack of personnel who are skilled in carrying out planned change.

2. The creation of an institute for the study of educational innovation to develop new concepts for advancing research and development within a framework of planned change. This strategy is addressed to our limited knowledge of change.
3. A plan to facilitate state and national policy development in the generation and assessment of policy alternatives. This strategy is addressed to the conflict over the role of local, state, and federal government in facilitating planned change.
4. The application of operations research to local school district problems to meet the goal of planning. This strategy is addressed to the negative attitudes generally held toward centralized units devoting to planning functions. (65:4-36)

The Research and Instruction Unit, a program of the University of Wisconsin Research and Development Center, has been described as a strategy for effecting change in local schools in that it is "an instrumentality for developing, testing and evaluating innovations" (57:18). Klausmeier portrays it as performing instruction, research, development, innovation and diffusion functions "which set it off sharply from any structure now existing in the schools" (132:4). The Far West Laboratory for Research and Development, in its survey of arrangements for effective use of educational research and development information, considers the R & I Unit to be "the most highly developed arrangement for increasing the utilization of research-based information by school personnel" (133:8).

Leavitt indicates three points of leverage to induce change: (1) structural, (2) technical, and (3) social or interpersonal factors (134:172). Westley-Gibson depicts two leverage points: (1) alter the social structure of the sytem, and (2) work with the motivations, needs and potentials of the individuals involved (80:7).

Techniques. There are various ways of classifying techniques which are utilized to bring about change. Guba's classification, which focuses on techniques which can be utilized to convince a practitioner to adopt an innovation, is as follows: (1) tell, (2) show, (3) help, (4) involve, (5) train, and (6) intervene (123:17). Chin lists five categories: (1) education and specialists (tell); (2) innovation (start); (3) communication, media and influence (sell); (4) money theories (buy); and (5) planned change (interrelate) (37:6-9). Jongeward lists five types of techniques for getting research into action and thus bringing about change: (1) university-based research; (2) prescribed curriculum; (3) product or gadget; (4) dissemination of research information; and (5) efficiency angle (135:3-5). Mackenzie categorizes the techniques used to bring about curriculum change under the following headings; (1) advocacy and communication; (2) prestige; (3) competence; (4) money or goods; (5) legal authority; (6) policy, precedent and custom; and (7) cooperation and collaboration (79:417-420).

Another way of viewing techniques is to classify them on the basis of the pressure which creates the need for change. In what follows, the pressure is followed by that type of technique which is usually utilized to relieve the pressure.

1. *Technical innovation* – divide the work-flow process into new logical steps and then issue rational instructions.
2. *Competition and the struggle for economic survival* – forced compliance.
3. *Man's growing desire for freedom and self-direction* – shared decision-making and open communication about goals, methods, norms, and need satisfaction. (100:83)

Katz and Kahn present a comprehensive analysis of six categories of techniques for inducing organizational change: (1) information; (2) individual counseling and therapy; (3) influence of the

peer group; (4) sensitivity training; (5) group therapy; (6) feedback and group discussion; and (7) systemic change (70:391-451). Miles summarizes the techniques used to bring about change in industrial organizations under the following headings: (1) team training; (2) survey feedback; (3) role workshop; (4) target setting and supporting activities; (5) organizational diagnosis and problem-solving; and (6) organizational experiment (2:28-30). He also classifies techniques for inducing organization health as (1) self-study; (2) relational emphasis; (3) increased date-flow; (4) norms as change agent; (5) temporary system approach; and (6) expert facilitation (2:30-32). Greiner discusses three main techniques for inducing organizational change under the following headings: (1) unilateral action by decree, replacement or structure; (2) sharing of power by group decision making or group problem solving; and (3) delegated authority by case discussion or sensitivity training session (136:120-122).

Bennis describes eight traditional techniques for bringing about change as follows:

1. *Exposition and propagation,* which rests on the assumption that knowledge is power, that ideas change the world, and that men who possess "truth" will ultimately lead the world.
2. *Elite corps,* which is based on the idea of getting the right man in the job.
3. *Human relations training,* which attempts to translate concepts from the behavioral sciences so that they take on personal referents for the people undergoing training.
4. *Staff,* which attempts to provide a source of intelligence within the client system so that appropriate intelligence is available when needed.
5. *Scholarly consultations,* which involves exploratory inquiry, scholarly understanding, scholarly confrontation, discovery of solutions, and scientific advice to the client.
6. *Circulation of ideas to the elite,* which assumes that if you want change, you have to get your ideas to the people in power or to those who can influence these people.
7. *Developmental research,* which has to do with seeing whether an idea can be brought to an engineering stage and is directed toward a particular problem, not necessarily a client.
8. *Action research,* which attempts to solve a problem for a client by involving the subjects and researchers in a dynamic interchange. (137:339-361)

In reviewing the types of advice social scientists offer to leaders who desire to achieve change in the face of major conflict, Walton discerns that there are two basic categories of techniques for inducing change: (1) *power techniques,* which involve the building of a power base, the manipulation of power, and the biasing of the rival power groups' perceptions about the strengths of their preferences and values; and (2) *attitude techniques,* which involve the use of trust rather than power, reduction of threat rather than the systematic use of threat, and honest communication rather than dissimulation (138:167-179). Schein labels Walton's first category, power techniques, *compliance* when the individual changes because he is forced to change by the direct manipulation of rewards and punishments (139:17). Sayles labels Walton's second category, attitude techniques, *conversion* when changed behavior is the product of individual cognitive or attitudinal change, and depicts action research, sensitivity training and the management grid technique as individual techniques under this category (140:66).

O'Connell summarizes the techniques recommended by behavioral scientists as follows:

> *Most recent social-science involvement, then, in organizational change has tended to have the following characteristics: (1) change-agent role is more collaborative than unilateral, (2) a human values focus causes emphasis on the social more than the structural or technological factors in organization, and (3) intervention strategies aim at behavioral change through cognitive or attitude change rather than through a direct alteration of the external forces which constitute the role demands. (46:8-9)*

O'Connell also indicates that understanding of organizational change is dependent upon advances in the social sciences dealing with the dynamics of human affairs on four levels: (1) within the individual as a system; (2) in two-person systems; (3) in multiple-person, nonhierarchical systems; and (4) in hierarchical systems (46:3).

In regard to the utilization of knowledge to promote change, Lippitt, Benne and Havelock suggest four techniques for solving the problems in linking roles: (1) the principle of inclusion; (2) the development of temporary linking systems; (3) specialized media; and (4) the specialized linking role (141:5).

Although innovation is the form of educational change currently being emphasized, the following statement by Carlson is instructive for indicating other methods of change which are frequently utilized by school systems:

> *Adoption of new educational practices is only one means by which school systems attempt to adjust to their environment. The educational enterprise also changes its structure, size and support; alters its definition of purpose or mission; and adjusts the number, competencies and characteristics of its personnel. (142:2)*

IV. PEOPLE INVOLVED IN CHANGE

Barnett presents a typology of acceptors of novelty, which is as follows:

1. *The Dissident* – consistently refuse to identify themselves with some of the conventions of their group.
2. *The Indifferent* – are prepared to accept new ideas because they have not dedicated themselves irretrievably to a custom or ideal of their society.
3. *The Disaffected* – are at odds with their society as a result of such possible variables as marginal status, disillusionment, frustration, circumvention by enemies, generalized social anxiety, and guilt depression.
4. *The Resentful* – are susceptible to a suggestion of change because they have less to lose by accepting it, often nothing to lose. (42:381)

Rogers defines innovators as "the first members of a social system to adopt new ideas" (143:55), and characterizes them as follows:

1. *Innovators generally are young.*
2. *Innovators have relatively high social status, in terms of amount of education, prestige ratings, and income.*
3. *Impersonal and cosmopolite sources of information are important to innovators.*
4. *Innovators are cosmopolite.*
5. *Innovators exert opinion leadership.*
6. *Innovators are likely to be viewed as deviants by their peers and by themselves. (143:58-59)*

Evans, however, expands Rogers' definition of innovators to include "a person, or a group, who introduces a new idea, as well as the one who is first to adopt it" (55:21).

Rogers also conceptualizes the continuum of innovativeness in terms of five adopter categories: *"innovators,* the first 2.5 percent to adopt; *early adopters,* the next 13.5 percent; *early majority,* the next 34 percent; *late majority,* the next 34 percent; and *laggards,* the last 16 percent to adopt" (124:82). The salient values attributed to each of the above five categories are as follows:

> *(1) innovators – venturesome – willing to accept risks; (2) early adopters – respected – regarded by many others in the social system as model; (3) early majority – deliberate – willing to consider innovations only after peers have adopted them; (4) late majority – skeptical – overwhelming pressure from peers needed before adoption occurs; and (5) laggards – tradition bound – oriented to the past. (55:20)*

There are others who, like Evans, do not follow Rogers' definition of innovator. Among them is Gallaher who defines an innovator as "the individual or agency responsible for the conception of an innovation" (54:24), while change advocates are "individuals or agencies who sponsor an innovation for the express purpose of gaining its acceptance by others" (54:24). Gallaher also differentiates between change agents and change advocates on the basis that "the role of change agent does not involve necessarily either the conception of an innovation, or its advocacy, but rather the analysis of consequences and the giving of advice based thereon" (54:25). Meadows uses the term agents of change to encompass all individuals and organizations involved along the continuum of change. His typology of change agents is as follows:

1. *the innovators – discoverers, inventors, elaborators, systematizers, codifiers, promulgators or de-codifiers, or other developers of novelty.*
2. *donors – entrepreneurial organizations responsible for the mobilizing, shaping, transporting, transmitting, merchandising, informing, propagandizing activities of the human carriers of novelty.*
3. *acceptors – the individuals, associations, and institutions which absorb the novelty as part of the "going concerns" which they themselves in point of the fact are. (41:44)*

Havelock has developed a typology of linking roles in the change process:

1. *Conveyor* – one who takes knowledge from expert sources and passes it on to non-expert users.
2. *Consultant* – one who is a facilitator, helper, objective observer, and specialist in how to diagnose needs, identify resources and retrieve from expert sources.
3. *Leader* – one who creates effective linkage through power or influence within the receiver's own group.
4. *Innovator* – the first person or persons to take up a new idea.
5. *Defender* – one who champions the client against innovations.
6. *Knowledge Builder* – one who serves as a gatekeeper to the world of science, a supreme generalist and general educator, or a definer of basic human values and directions, or who has a dual orientation, focusing on both scientific soundness and practical usefulness.
7. *Practitioner* – one who serves his clients, the general public, the consuming public, students, patients, the needy, or whatever by imparting to the ultimate consumer some elements from the collective cultural knowledge bank.
8. *User* – one who takes initiative on his own behalf to seek out scientific knowledge and derive useful learnings therefrom. (144:4-28)

He summarizes the endemic problems in linking roles under five headings: (1) marginality; (2) conflicting service goals (serving two masters); (3) remoteness from the point of need (spatially and temporally); (4) expertise overload; and (5) channel inefficiency (145:5).

Jung discusses two kinds of linking roles to bring about change: (1) carrier linkage, which involves training people to train others in the use of specific innovations; and (2) mutual bond linkage, which involves training people to train others in identifying improvement needs and coping with them by carrying out problem-solving steps which utilize research findings and skills. He concludes that mutual bond linkage is equally important, but less commonly found than carrier linkage (146:2). Jung, Fox, and Lippitt come essentially to the same conclusion when they state that roles for identifying and planning to cope with change needs should be further developed by school systems (147:78).

The role of the school administrator in change is debated in the literature. Gallaher argues that although it is impossible for the administrator to avoid any concern with change, he cannot adequately serve as an advocate of change (91:50-51). Horvat feels that there are two possible roles for the school administrator in causing change to occur: (1) the active change agent role where the administrator attempts to be an active leader in bringing about change; or (2) the passive change agent role where he administers the school more or less as usual, shows fairly high interest in change, but does not spend a great deal of his time actually practicing change agentry (148:27). Horvat concludes that the passive change agent role is the one most administrators can assume (148:28). Others feel that superintendents might carry out one or a combination of the following change roles: (1) content initiator, (2) process initiator, (3) mediator, and (4) squasher (149:80-81).

Just as the role of the administrator in change is unclear, so is the role of the teacher. Brickell states that changes in the structural arrangements of schools depend almost exclusively upon administrative initiative and that teachers are not change agents for innovations of major scope (150:503). Sieber feels that teachers serve as bureaucratic functionaries who are opposed to innovation (126:13-15). Gottlieb and Brookover, in a research study, found that teachers do not perceive their role as someone who can or should make decisions about educational innovations and depend upon administrative initiative in matters of change (151:123-127). The writers in at least one publication, however, feel that teachers can and should play a major role in promoting educational change (152). In fact, the Research and Instruction Unit seems to be based upon the premise that teachers can bring about meaningful change if the school is structured to promote such behavior (132:1-9). In another research study, Gross, Giacquinta and Berstein question the premise of teacher resistance to change (98:242).

V. SOURCES OF AND BARRIERS TO CHANGE

Sources of Change. Barnett indicates that there are two major sources of innovation: (1) the cultural inventory that is available to the innovator; and (2) the non-artificial elements of the innovator's experience, which exist independently of human ingenuity and control (42:10). Hamlin and Porter depict three basic sources:

> *the man with a passion and his committed followers, the outside agency which feeds the results of its research into the academic world, and institutions themselves which slowly come to the conviction that they must be better than they are, be able to do things they have never done. (153:104)*

Bratten indicates that changes may result from "(1) changed performance requirements, (2) availability of improved technology, or (3) discovery of procedural errors in an operating system" (48:67).

Pellegrin presents a comprehensive analysis of the following sources of innovation in education: (1) the classroom teacher; (2) the administrator; (3) the school board; (4) the lay public; (5) state departments of education; (6) education faculties in colleges and universities; (7) professional associations; (8) the United States Office of Education and other federal government agencies; (9) textbook publishers; and (10) scientists, technical specialists, and other experts (62:6-14). He concludes that the major sources for educational change are external to the schools (62:15). In commenting about the national focus for educational change, Cass feels that a new leadership structure has emerged which is composed of non-professionally prepared persons who have had limited public school experience and who are noted for their pragmatic orientation (154:45).

Pierce lists thirteen forces which cause educational change: (1) cultural change itself; (2) enactments of state legislatures; (3) regulations of state and local boards of education, and other administrative and supervisory agencies; (4) court decisions; (5) regional and national accrediting agencies; (6) research and experimentation; (7) study committees which are appointed for special purposes; (8) cooperative action within or among school systems; (9) financial grants for special purposes; (10) money-making and commercial enterprises; (11) emergencies; (12) dissatisfaction of citizens; and (13) creative educators who redefine problems, perceive new problems and create new ways of dealing with them (82:144-148).

Cass presents four reasons why the pressure for educational change will continue and spread: (1) the increasing number of children to be educated and teachers to educate them; (2) new knowledge of subject-matter areas and of the teaching-learning process; (3) increasing interest in and utilization of advances in technology; and (4) popular attitudes which show an increasing concern for quality education (155:616-617).

Burchinal lists the resources which may provide the basis for building programs that can foster widespread adoption of new educational ideas and practices:

1. *New national programs such as ERIC, SRIS, EPIE as back-stopping resources for change programs of local and State agencies or Regional Educational Laboratories.*
2. *The 20 Regional Educational Laboratories, each of which is assuming active roles as change agents for installing new programs in local school districts.*
3. *The 11 Research and Development Centers, each of which has numerous roles as a change-agent.*
4. *The 14 instructional materials centers established by the Bureau of Education for the Handicapped, USOE, each of which acquires and may evaluate materials, develops or stimulates production of new materials, and disseminates information about all of these.*
5. *The 50 State agencies, with their many change-facilitating resources, including their guidance and development roles as well as their application of reward systems for inducing changes.*
6. *The many planning, information transfer, materials or resources centers funded under Title III, ESEA, many of which are functioning as local one-stop information centers and as mediators between knowledge producers and educational practitioners.*
7. *In addition, educational researchers have continued to analyze the change process, develop models, and, to a lesser extent, have begun to apply the theory represented by these models to the practice of influencing change. (156:1-2)*

Barriers to Change. Lest the sources, pressures and forces listed above create the impression that educational change will come about easily and swiftly, various barriers to educational change will now be presented. Carlson indicates that there are three main barriers: (1) the absence of a change agent; (2) a weak knowledge base; and (3) domestication of the public schools (157:4-7).

Pellegrin lists the following as major impediments to the achievement of effective changes in education:

1. *There is serious confusion in the field of education concerning the sources of reliable and valid knowledge.*
2. *In view of the complexity, size, and scope of the educational enterprise in the United States, the division of labor that exists is rudimentary and wholly inadequate for the specialized roles that must be performed if we are to make the right kinds of innovations effectively.*
3. *Training programs for students of education reflect points (1) and (2) above.*
4. *There is a lack of opportunity, resources, and settings for evaluating them objectively through research.*
5. *Persons who play different roles in education – teachers, administrators, and researchers, for example – do not have their work linked together by any institutionalized means or procedures.*
6. *There are grave weaknesses of channels and procedures for dissemination.*
7. *As Matthew Miles has indicated, the professional culture in education contains certain ideological beliefs that "serve to block effective innovation by effectively insulating educational practitioners from reality."*
8. *How educational practices can be related accurately to the goals and ambitions of the public is a question that is shrouded in doubt and uncertainty. (62:22-25)*

Green characterizes the barriers to educational change as follows:

1. *There is no economic incentive for educators to innovate.*
2. *There are very few change agents in education.*
3. *Community forces outside schools discourage change.*
4. *Educational research is difficult and underdeveloped, with no clear-cut way of getting research findings from the laboratory into the classroom. (158:10-11)*

Rogers depicts the barriers in a similar manner:

1. *There is no profit motive for being an innovator in education.*
2. *There is no corps of change agents in education comparable to extension agents in agriculture.*
3. *Educational innovations are less clear-cut in their advantage over the existing ideas they are to replace.*
4. *Innovation decisions in education may not be an individual matter, and the norms, statuses, and formal structure of the system affect the process of diffusion. (124:78-79)*

Boyan feels that the products of educational inventiveness have three characteristics which serve as barriers to change: (1) they appear in an underdeveloped state; (2) they appear in forms which are not fully understood by or acceptable to practitioners; and (3) they seldom include specific provision for preparing or training the potential user to use the product wisely and well (159:2).

Sieber depicts the distinctive features of educational systems which serve as barriers to change: (1) vulnerability; (2) quasi-professionalism; (3) goal-diffuseness; and (4) formal coordination and control (126:3-20). Similarly, Miles portrays the special properties of educational systems which militate against the promotion and acceptance of meaningful change: (1) goal ambiguity; (2) input variability; (3) role performance invisibility; (4) low interdependence; (5) vulnerability; (6) lay-professional control problems; and (7) low technological investment (2:22-27).

Schmuck depicts three gaps in the connection between research knowledge and administrative practice which serve as barriers to change.

1. *The lack of effective communication and interpersonal relationships* between behavioral scientists and school administrators.
2. *The lack of psychological linkages* between the administrator's scientific knowledge and his actions.
3. *The lack of connection* between the practitioner's action repertoire and the requirements of each natural situation as it arises. (160:8-11)

Guba and Horvat, in analyzing the characteristics of American educational research, depict the following as major barriers to change:

1. *There is little utilization of research by practitioners.*
    a. *Research has not been cumulative to any marked degree.*
    b. *Research has not been programmatically oriented, so that major problem areas have not been systematically explored.*
    c. *The research currently being produced has been quite unresponsive to practical problems.*
2. *There are no adequate mechanisms to link the worlds of the researcher and the practitioner.*
3. *Patterns for training educational researchers or for producing needed new middlemen (linkers) are inadequate or non-existent.*
4. *Adequate tools and strategies for carrying out school improvement activities are lacking. (161:87-89)*

Horvat portrays four major barriers to change under the following headings:

1. *Lack of viable alternative solutions to existing educational problems.*
2. *Lack of understanding of the educational change process.*

3. *Lack of personnel competent to study the change process, to exercise leadership in designing and mounting change programs, or to implement those programs in action.*

4. *Lack of tools and strategies through which educational improvements may be effected. (148:22-23)*

VI. RESEARCH STUDIES OF THE CHANGE PROCESS

The awareness-interest-evaluation-trial-adoption mode of conceptualizing the change process has, by far, received the most attention in research studies. Rogers has summarized over five-hundred publications, including many research studies, which deal with this mode of conceptualization (43). His analysis focuses on three variables inherent in the study of change: (1) the innovation; (2) the target unit, or that which is to be changed; and (3) the initiating unit or change agent. Christiansen and Taylor utilized the awareness-interest-evaluation-trial-adoption model in attempting to determine the relative influence of sources of information affecting the adoption of educational innovations among teachers of vocational education (162:44). Coleman, Katz and Menzel utilized this model in explaining the diffusion of a new drug among doctors (163). Evans structured his study of the adoption of instructional television in higher education around these phases (55). Eichholz developed his rejection classification for educational innovations on the basis of these phases (95). The major limitation of such studies, however, is that they focus on the individual as the unit of adoption and provide virtually no information on how an educational organization functions as a change agent. Moreover, they are concerned with the process of diffusing tested innovations and therefore limit themselves to one segment of the change process.

Rogers' summary of the findings of six major diffusion research traditions demonstrates the restricted focus of these studies:

1. *Anthropology: where ideas diffuse from one society to another and the social consequences of technological innovations have been typical studies.*
2. *Early Sociology: where S-shaped adopter distributions have been found, and some correlates of innovativeness have been determined.*
3. *Rural Sociology: where correlates of farmer innovativeness, the effect of the properties of innovations on their rate of adoption, and communication channels at stages in the adoption process have received the major research attention.*
4. *Industrial: where the correlates of innovativeness among industrial firms have been studied by industrial economists and engineers.*
5. *Medical sociology: where the diffusion of a new drug among physicians and the acceptance of the Salk polio vaccine have been investigated. Findings are available on the correlates of innovativeness and on the role of opinion leaders in diffusing new ideas.*
6. *Education: where the correlates of innovativeness among schools were studied, especially by Paul Mort and his followers at Teachers College, Columbia University, in the 1940's and 1950's. More recently, however, some educational diffusion research has been completed at Ohio State, Pittsburgh, Oregon, North Carolina, and Michigan State. (124:78)*

In an effort to enable the Navy to gain more practical applications from the research it sponsors, Mackie and Christensen conducted a study to describe the process involved in translating the results of laboratory research in psychology into forms that would be meaningful in operational settings. They found that the research-to-application process has never properly developed for the psychology of learning, and attribute this failure to the research philosophies of experimental psychologists and the reluctance of potential users to make the efforts necessary to realize the benefits of research findings (112:2).

Loellbach reports a study done for the National Science Foundation which focused on the role of research in the overall process which eventually leads to technological innovation. The study was based upon an historical tracing of key scientific events which culminated in the production of five technological innovations. It categorized those events under three headings: (1) non-mission research; (2) mission-oriented research; and (3) development and application (47).

Burns and Stalker report their study of twenty industrial firms which focused on the problems related to the exploitation of scientific discovery by industry. One of their major findings was that the fewer the links in the research-to-application process, the more effective was the process (164:171). This study did not contain a detailed conceptualization of the change process nor did it emphasize the process as such, but instead focused on problems in the process.

There are a number of studies which focus on the role of a change agent working with various business concerns (165;166;167;168;169), but, as O'Connell indicates, these studies give little recognition to change as a process and are more concerned with evaluating the intervention strategy utilized by the agent and the effectiveness of the planned change program (46:10).

The bulk of studies on educational change was done at Teachers College, Columbia University, under the inspiration of Paul Mort (170), but the current value of these studies is open to question, as is evidenced in the following quotations:

1. *Further, the studies conducted under the inspiration of Mort at Teachers College, comprising the bulk of diffusion research on education, tell us virtually nothing about concrete processes and hindrances to change. And there are indications that even the findings about diffusion rates that were produced by this tradition have been out-dated by recent acceleration in the production and distribution of educational ideas. (126:1)*

2. *Before 1960 the information known about educational change could be best summarized by the following two generalizations: First, school systems which are first to adopt new educational practices spend the most money per pupil and those which adopt new practices last spend the least. Secondly, the characteristics and behaviors of school administrators are unimportant in explaining the adoption rates for new curriculum practices within school systems.*

   The results of a number of research studies conducted since 1960 have challenged the validity of these generalizations. Most of these studies have found insignificant correlations between the expenditures per pupil in school systems and the adoption of new curriculum practices. This suggests that there is no consistent monetary explanation for the rate of educational change within school systems. These studies also show the important role school administrators play in changing the curriculum. (171:1)

3. *Richard Carlson's studies of the school superintendent have examined one individual role in relation to one facet of the change process – adoption. Henry Brickell discussed institutional roles relating to the change process in one state based on an impressionistic examination of how change occurs in schools.*

> *The bulk of the change research in education, conducted over a 25-year span by Paul R. Mort and his students, concentrated on a single phase of the change process, actual adoption of an invention by a school district, and only incidentally referred to the role of change agents. When the latter work examines an institutional change role, such as that of state education agencies, though, the data are nearly impossible to use since Mort employed what Miles refers to as 'commonsense categories." unrelated to change research going on in other fields. The most direct scientific lineage for the structure comes from attempts to classify the innovation process in other areas of change research, as for example, in rural sociology. (114:113)*

4. *Paul Mort did, on the other hand, make extensive studies of innovation by organization – school districts. But Mort, far from being even an amateur sociologist, appeared almost aggressively ignorant of available knowledge about the functioning of organizations and communities. His "common sense" categories and demographic indices give us no inkling of what was really going on in the districts who supplied him with data. (2:12)*

Gross, Giacquinta and Bernstein undertook a study which focused on the process of implementing an innovation in a school. They found that the failure to implement the innovation effectively was attributable to deficiencies in the the strategy used by the administrator to promote implementation of the innovation (98:239). Their study did demonstrate the value of viewing change as a process, although they restricted their focus to the actual process of implementing an innovation.

Carlson has done extensive research on the relationship between executive succession and organizational change (172), and on the role of the superintendent in the adoption of innovations by local school systems (142). Following his lead, other studies have attempted to discover, from an expanded social context, what conditions or factors are related to the adoption and acceptance of change in local schools and school systems (171;173;174;175;176).

VII. SUMMARY

Various viewpoints have been presented concerning types and definitions of change, change models, strategies and techniques, people involved in change, sources of and barriers to change, and research studies of the change process. An extensive reading of the literature under each of these headings supports the conclusion that whatever view one espouses toward change, he can find some support for that position in the literature. Although there is currently a great deal of interest in change, it is a topic which is neither commonly referred to nor commonly understood. Therefore, what the reader can gain from this review, besides a general overview of the topic of change itself, is a recognition of the importance and necessity of specifying the nature, scope, level, and target of the change he wishes to investigate, along with the vantage point from which the investigation is to be conducted.

FOOTNOTES

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